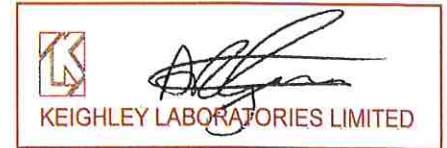


Certificate Ref: 3000424655

Order Ref: PO-04232
Received: 25/05/2021
Issue Date: 09/06/2021

For the attention of: Leah Hatch
K & S Aerospace Components
Unit 14 Eddystone Road
South Hants Industrial Park
SOUTHAMPTON
Hampshire
SO40 3SA



Ashley Payne
Metallurgical Technician

BUTT WELDED NICKEL ALLOY SHEET
Material Specification - MSRR 7104 (N75)

Welded By : J Gooch
Welder ID : KS09
Welding Process : TIG - ISO 24394-141-S-PA1-B-T1.2
Filler Rod : 9500/3
DPI Examination Certificate: : N149099LIQ1
Carried out by another UKAS laboratory prior to arrival at Keighley Laboratories.
Radiographic Examination Certificate: : N149099RAD1
Carried out by another UKAS laboratory prior to arrival at Keighley Laboratories.
Visual Examination Certificate: : N149099VIS1
Carried out by another UKAS laboratory prior to arrival at Keighley Laboratories.

Weld Test

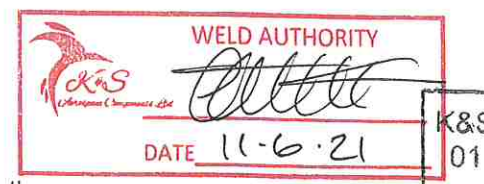
Overall Result Acceptable

Visual Examination

Condition As Welded
Magnification Up to x25
Result Acceptable

Tensile Test

Laboratory Temperature		20 °C
Dimensions	a x b	25.0 x 1.23 mm
Area	So	30.8 mm ²
Maximum Force	Fm	22.18 kN
Tensile Strength	Rm	720 N/mm ²
Tensile Strength	Rm	104.5 ksi
Broke		Adjacent to weld
Result		Acceptable - providing tensile strength meets the design requirements



When a certificate of conformity is required, and where guidance from the material/testing specification is not available, the Simple Acceptance Rule (ILAC - G8:09/2019) will be applied for borderline results that are within the uncertainty budgets for the test carried out as detailed within KLL procedure QP006 Appendix 1 (Guard band zero: Risk less than 50 % Probability of False Accept).

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Results relate only to the item(s) tested.

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Bend Test

Laboratory Temperature	20 °C
Bend Radius	2 x thickness
Face Bend	Bent 180° without cracking.
Result	Acceptable

Metallographic Examination

Magnification	x7 - x500
Etchant	Super Kallings Reagent
Section(s) assessed	1
Result	Acceptable

Note

Test Schedule: C.A.A. - British Civil Airworthiness Requirements Chapter A8-10 as applicable.
Test Schedule: British Standard BS ISO 24394:2018 as applicable.
Test Schedule: Rolls Royce plc. - RPS 912 Issue 18 as applicable.

*** END OF DOCUMENT ***

When a certificate of conformity is required, and where guidance from the material/testing specification is not available, the Simple Acceptance Rule (ILAC - G8:09/2019) will be applied for borderline results that are within the uncertainty budgets for the test carried out as detailed within KLL procedure QP006 Appendix 1 (Guard band zero: Risk less than 50 % Probability of False Accept).

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